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SCHOOL AND SOCIETY

EDITED BY J. McKEEN CATTELL

Volume 48 | SATURDAY, DECEMBER 10, 1938 | Number 1250

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SCHOOL AND SOCIETY

WITH WHICH ARE COMBINED THE EDUCATIONAL REVIEW, ESTABLISHED IN 1891, THE TEACHERS MAGAZINE, ESTABLISHED IN 1878, AND THE SCHOOL JOURNAL, ESTABLISHED IN 1874.

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SOME CHALLENGES OF PROGRESSIVE EDUCATION TO SCHOOLS OF EDUCATION

By Professor S. M. BROWNELL

YALE UNIVERSITY

IN considering the subject of this discussion it is perhaps well, first and foremost, that I should indicate what progressive education means, or does not mean, to me. It certainly does not mean acceptance of all pronouncements of the Progressive Education Association. It does not mean the reconstruction of society by any group of educators or any brand of education. It does not mean a particular kind of activity or activities conducted by certain educators and schools of educators and labeled Progressive Education.

As a Republican or Democrat I could not accept all the ideas advocated by many who label themselves as party leaders, although in the main I might be in sympathy with the general plans for which the parties stood. As a Presbyterian or Methodist there are view-points advocated by many widely quoted ministers and laymen of the church which are not ones with which I can agree. As a superintendent of schools, I can enthusiastically disagree with many accepted practices and widely advertised administrative programs. Similarly, although I feel it a privilege to take active part as a member of the Progressive Education Association, I must frankly state that there are many things labeled to-day by some as Progressive Education which appeal to me as "cock-eyed" and highly impractical.

As I study the history of education, it is the record of progressive education and progressive educators. It is a chronicle of changes brought about by those who have been willing to depart from the traditional, not just because it was traditional, but because they saw that needed improvements could come about only through new patterns and ways of doing things.

Sometimes these fundamental innovations came from an idea of a man of vision, himself totally incompetent of moulding the ideas into a practical working order. It affected educational practice only through the administrative adaptation of the idea by students who caught the idea from the seer and who put it into effect. They were able to recognize the values in the idea and were able to make the idea function in terms of affecting the lives of children.

Other great advances in education have come from teachers whose practices have been the focal point from which a widespread improvement in educational practice has spread. These teachers made changes in order to meet a personal or particular need. Others, observing their success, saw the possibility of applying the idea or plan in other situations, and a wave of progress resulted.

In all these cases of progress in education, however, certain common elements have been present:

(1) There has been the recognition that existing

practices were unsatisfactory in providing certain desirable conditions for child development.

(2) There has been vision to see a plan for improving child growth.

(3) There has been a willingness to depart from an existing practice, even at the expense of tremendous energy, of security and comfort, if necessary.

(4) There has been administrative skill in making the idea workable.

(5) There has been ability to make others understand the idea and its values.

Usually successful introduction of new ideas has required that there be a combination of idealists and practical teachers and administrators who have all been progressive educators, all willing to consider and try out the new ideas which had promise of improving child growth. This *combination of cooperative effort to improve childhood education to me is progressive education,* and I see in what to-day is called progressive education wide-spread emphasis, popularization and acceptance of that point of view. Such a point of view, of course, assumes that any practice or practices can be judged as progressive only in reference to the roots from which they have sprung and in consideration of the direction in which they are headed. It would seem, then, that to the extent progressive education actually, or in the minds of people generally, becomes a fetish or means adherence to a particular set of practices, progressive education is in grave danger of dying by its own sword.

With this explanation of what I mean by progressive education let me proceed to point out what I consider to be the purpose of teacher training, with certain implications of such a purpose in terms of the characteristics of the product which a teacher-training program hopes to secure and of the general opportunities which the school of education has to govern this product, if this purpose be accepted.

There is likely to be general agreement that the purpose of teacher training is, through a process of selection and education, to provide children with the best possible qualified persons to act as adult leaders in that portion of childhood education under the direction of the school.

Such a definition then implies for the school of education that its products have certain attributes, on which again we could probably in general agree; namely:

(1) Personal characteristics which will enable the teacher satisfactorily to make the many personal adjustments—with pupils, patrons and colleagues—that are demanded of the teacher.

(2) Interest in working with children and in doing progressively a better job as a teacher.

(3) Knowledge of children and their characteristics; of the purposes of education and the place of the school in the field of education; of the job of the teacher in the school and community; and of the techniques for effectively aiding children in their varied adjustment needs.

(4) Skill to apply their knowledge efficiently.

Some of these attributes are amenable to education and guidance of the school of education. Some are not. Nevertheless it seems reasonable to assume that within limits the school of education has controlling power over such opportunities as these:

(1) The opportunity to select those with reasonable potentiality for securing the abovementioned attributes.

(2) The opportunity to aid students in developing these potentialities through providing students with the necessary experiences.

(3) The opportunity to eliminate those who fail to develop these potentialities.

(4) The opportunity to guide and orient persons with the requisite interest and ability through the period of teacher education, which extends until they have made satisfactory adjustment as a teacher.

(5) The opportunity to provide aids that will assist teachers in service continuously to be more effective.

To the extent that these opportunities are granted to teacher-training institutions and are accepted by them, just to that extent does it place them in a strategic position of

leadership in reference to the whole field of teaching. It is because of this leadership function that I would single out for consideration *the first challenge* of progressive education to schools of education. It is a challenge to them, as leaders, *to provide leadership in evaluating innovations which may be called progressive; to provide leadership in interpreting progressive education; and to provide leadership in demonstrating progressive educational practices.*

Educational innovations in theory or in practice are ever in need of sound, thorough and sympathetically critical examination. Leadership in this careful and accurate thinking, in an open-minded and unbiased criticism of these innovations—whether they are labeled progressive or not—should be expected from the highly trained persons who occupy positions of leadership in the educational world. It is obvious that in schools of education this leadership is or should be expected to be most evident. Those in the field are constantly in need of counsel, as they view the innovating practices and hear expounded the promising theories. If I may be pardoned for this play on the double meaning of a word I would say that those in the field want to know: Which of these ideas are sound? Which of them are nothing but sound?

I am inclined to think that there is a feeling on the part of many in the field that the leaders in some schools of education have not accepted their obligation for leadership in careful and accurate thinking. It frequently appears that speakers from some school of education staffs react to new ideas and practices very much like some political leaders. Whatever the rival school of education advocates is all wrong and must be outspokenly and perhaps one-sidedly pulled to pieces. The impression results that much of the criticism of educational principles and practices by some of the leaders in education tends to be glandular rather than cerebral. Yet educational progress, after all, depends upon thorough but objective criticism by those who understand it best.

The natural position of leadership of schools of education also offers the opportunity and responsibility to them for interpreting progressive education to the lay public and also to college folks other than those in colleges of education. The average layman assumes that the college professor knows more than other people. I think this is true in spite of the era of rather unfavorable publicity which has been given to so-called "brain trusters." Upon public and private utterances concerning education and in other lines, the general public places more than ordinary confidence in statements from college professors. Those from schools of education are, therefore, in a position where they could exert much influence. If they would, through their public and private utterances, provide in language understandable to the lay public an idea of the values of progressive education in this day and age, they are in a position to do much to break one of the greatest shackles of public schools anxious to make progress, the shackle of tradition. Parents and the public in general are very properly conservative in anything which affects the training of their children. They are eager for children to have advantages, but they first need to be convinced that any change is an advantage.

Furthermore, when it is realized that comments on education, progressive or otherwise, by a professor of physics or of economics carry nearly, if not quite, as much public weight as from a leader in elementary or secondary education, there is evident an opportunity and need for building an understanding of progressive education within the general college faculties. Schools of education, as no other group, are in a strategic position to see that their colleagues in other fields gain an adequate idea of what progressive education is.

Similarly, as leaders, it would seem that schools of education might and properly

should provide a laboratory situation in their teacher-training program to give form and substance in practical situations to the progressive point of view. By this I do not mean that they should necessarily duplicate a traditional or what might be called a "conservative" school program in their attempt to be practical, but rather that they could and should provide situations as to pupil-teacher load, equipment, etc., sufficiently typical that teachers in training would have an opportunity to see what could be done in the way of progressive education in situations that they will likely encounter. It is possible that one reason for the failure of progressive practices to carry over more completely from the exposition of schools of education is due to the dissimilarity of conditions in many training schools of teachers colleges from the typical public schools into which their product was placed. Where such a dissimilarity exists the resulting tendency is for teachers who have had such an education to fail to see what they might do of a progressive nature in their own school situation and with the limited facilities with which they have to work.

In saying this I do not wish to be interpreted as excluding the need for experimental schools which might be quite unlike typical public schools. Nor would I assume that this training-school experience for prospective teachers need to be the campus school in which the prospective teacher secured his first contacts with pupils. It appears to me quite possible that such experience might come as a part of an internship in which the school of education extended its services beyond the campus into an orientation experience in cooperation with selected public-school systems.

Thus in these three areas of leadership: evaluation of innovations, interpretation of progressive education and demonstration of progressive practices, it would seem to me that progressive education makes its first challenge to schools of education.

The second challenge which progressive education offers to schools of education is one which is forced upon all who would depart from accepted procedures in any field, but is particularly true in a field where support is from the public, and where through their children procedures affect intimately those who provide the support. It is the challenge *to harmonize their practices with their preachings.* It is a challenge to eliminate the inconsistency which frequently exists in schools of education in using traditional and proven inefficient methods of college teaching to try to get prospective teachers to be modern and efficient in their teaching.

I am perfectly willing to grant that colleges and elementary schools should have different techniques in their teaching procedures. I do not mean that I would advocate that college professors should use methods which have proven effective in kindergarten and first grade or even in high school. So frequently, however, we hear the facetious remarks of teachers who have come from schools of education about the kind of education they have received. They *listen to lectures* expounding that *activity* is the basis of learning or they receive courses on guidance from a faculty which has no sympathy with guidance on a college level. They can not but have their tongues in their cheek on all they hear, when they see that all the canons of good teaching are violated by their college instructors.

It would seem to me, too, that in attempting to harmonize their practices with their preachings there is the corollary of harmonizing their practices and preachings with the practices and needs of the schools as they exist, not as they used to be nor as it is hoped that some day they may become. Because of the peculiar position under which schools of education operate and which are

distinctive from typical conditions under which their graduates will operate, they must exercise special care if they are not to lose intimate knowledge of the conditions under which teachers are working and of the existing practices in modern schools.

There are a number of forces tending to keep the staffs of schools of education from full recognition of these conditions and practices. In the first place, the college is sheltered from local control. It therefore does not feel as acutely the reactions of the local community as is true of the elementary or high-school teachers of a local school system. In the second place, the college staff is working with college students who are a selected and matured group compared with the mine run of elementary and high-school pupils. In the third place, the teaching load, the library facilities and equipment of the teachers college is not typical of that which the usual elementary and high-school teacher will have available. In the fourth place, the public attitude toward college teachers is different from its attitude toward elementary and high-school teachers. Furthermore, the college staff is more likely to associate outside of the classroom with those interested in education, whereas this is not true for the typical teacher or administrator located in the city, small town or rural community. All these conditions are so distinctive to the college that there must be inevitably a tendency for those living under these conditions to forget or ignore the conditions under which the typical elementary and high-school teacher must operate. To the extent that schools of education lose sight of these conditions, however, they are as likely to provide training facilities that are not in keeping with the needs of their students as would be true of the teacher or administrator whom we decry for conducting his activities by rule-of-thumb procedures without knowledge of the abilities, interests and needs of his particular group of pupils and of the community.

As a former member of a state teacher training institution, I recognize that the typical staff member of a school of education has a very heavy load. He is bound to be so busy with his own job that he can easily fail, as the years go on, really to know what school practices are. It is so easy to assume that conditions are as he remembers them to be when he was in public school work. It is also easy to assume from readings that progress in a very widely advertised school is typical of schools in general. Yet because effective training is dependent upon having those who aid in its direction know what its students will face, it would seem that more than ordinary efforts should be expended to have the school of education staff intimately acquainted with the practices in modern schools.

In some schools of education which are attempting to assure this intimate knowledge on the part of their staffs the organization has been so arranged that staff members regularly, or at intervals, become associated with public school systems either on a part-time basis or by securing leave of absence from their college work. In others it is considered part of the expected work of the staff that visits be frequent to schools, not only to keep the college staff acquainted with school practices and conditions, but also as a means of following up graduates as a basis of appraising and improving the teacher education program.

The third challenge of progressive education which I should like to discuss rises from the definition used of progressive education as the willingness to break from tradition or the *status quo* in order to improve childhood education. Such a definition implies *that schools of education send out graduates capable of becoming progressive educators,* either by themselves initiating progressive practices, or capable of accepting and putting into operation those progressive practices initiated by others which are fitting to their own local situations. It, then, must

insure that these graduates have acquired an understanding of fundamental values against which proposed innovations may be evaluated. Otherwise there is the grave danger that those who espouse progressive education as a goal become mere chasers of the will-o'-the-wisp and triers of anything which is new in hopes that it is the panacea for all the ills of education.

The teacher who graduates to-day must not merely be able to evaluate a particular pattern of education which is in vogue to-day. He must consider continuously, as long as he remains in teaching, proposals for change. Are these proposals of real and lasting value or merely a fad? How may he know?

All of us are fooled at times into thinking that what is a fad is a long-term trend or *vice versa*. Outside of the field of education we are particularly apt to be fooled into buying some stock when the market is ready to break or into selling what we bought at a high price for a song because it looks as if there were no bottom to the toboggan on which stocks are taking their ride. We may perhaps easily be pardoned for such errors in judgment, for we are not financiers. We may be pardoned for diagnosing our child's whooping cough as a cold, and his scarlet fever as measles, too, for we do not pretend to be doctors. But in either case we have pretty much come to feel critical of the financier and the doctor who would make such errors, if we are employing them to aid us in our affairs. It would seem, too, that parents and citizens have a right to feel rather severely critical of those who have received their training in schools of education unless those trained persons are reasonably able to distinguish between that which is progressive and that which is superficially spectacular.

For schools of education it therefore appears essential that its graduates should be expected to have developed a scientifically critical point of view. It is probably far more important that this careful critical judgment be possessed or developed than that the graduate has learned and accepted certain techniques. Whether this critical judgment can be developed by schools of education from very little beginnings, or whether it can merely be discovered to exist in varying degrees and successfully developed if a considerable quantity is found present upon the beginning of the teacher-training period, I do not know. But certainly it would seem that this quality or ability should be given considerable weight in training, selecting and promoting leaders in educational work.

The fourth and last *challenge* which I propose to consider again is suggested by the definition given for progressive education. It recognizes that progressive education in some degree is possible for an individual to undertake under almost all the varied conditions in which he may be placed. There is, therefore, the implication that the school of education needs *to provide its students with knowledge of more than one technique of teaching*. As graduates they must know how to use, with realization of the values and dangers in their usage, varied procedures of comparatively ancient and modern fashion which they are likely to be expected to use.

As I think of the complaint of principals and superintendents I have known who have worked with products of some schools of education and found that they could operate effectively only if conditions and procedures were of the one pattern they had learned, I am reminded of the experiences I have had at times with graduates of certain business courses who came supposedly ready to do office work. Put to work at an L. C. Smith or a Remington typewriter they were completely baffled. They had learned on an Underwood, and they had no more idea of how to adjust to a slightly different method of changing the ribbon, regulating the length of line stops and straightening

the paper, than of how to take dictation in a foreign language.

No school of education can hope to have all its graduates expertly skilled in the use of all techniques which the graduate might have opportunity to employ in varied situations. It nevertheless seems highly desirable that efforts to develop versatility be encouraged. Many a young teacher has found himself at a loss on a job because his training had been devoted to building up an appreciation of only one pattern of thinking, and only one pattern of working with pupils, and that happened to be a pattern which was much at variance with the conditions under which he was expected to operate. He would have been greatly assisted if his teacher education had also included an appreciative consideration of the values and limitations of the formal class organization, of teaching from one text, of conducting pupil recitations and school organization with rigid time and disciplinary control, or, conversely, of employing informal classroom procedure, of using activities as the basis of learning situations or of utilizing several texts for a single group of pupils. Theory, observation and possibly some practice, it would seem, might profitably be offered to all who would be teachers, in the more common techniques and situations which graduates might encounter upon entering their teaching careers, rather than directing the thinking and experiences of prospective teachers toward only one pattern of thinking and working with pupils.

It is now proper that I should cease, for I have presented in brief form the four challenges which I set out to discuss. Yet I should feel that my time and yours had been ill spent if I were to leave you with the impression that to me the challenge of progressive education as discussed for schools of education had no broader implications. The challenge (1) to provide leadership in evaluating, interpreting and demonstrating progressive educational practices; the challenge (2) to harmonize practices with preachments; the challenge (3) to acquire an understanding of fundamental values against which proposed innovations may be judged; and the challenge (4) to be intelligently versatile in our techniques are all challenges that progressive education lays down to practitioners as well as to schools of education. As schools of education accept these challenges in greater and greater degree, those who are in the field will be under greater and greater pressure to accept them also.

If progressive education stands for anything, it stands for understanding the individual pupil and helping him to have meaningful experiences that will fit him for the life that he is leading and is to lead. To the extent that a continuation and improvement of the existing educational pattern of each teacher or school of education will provide these experiences, progress lies in the way of continuing in improved form and more efficient functioning this pattern. Where, however, progress is hindered by this existing pattern, there is not only the challenge but the demand for a break from tradition in order that pupils receive the education to which they are entitled.

Those who are in the field can not therefore complacently point their finger at schools of education and say, "We look to you to accept the challenges of progressive education. Then we'll do something about it." The challenges are personal and extend to all engaged in work with children that they shall cooperate to improve childhood education. To the extent, then, that the challenges are accepted as personal ones we may expect that progressive education will become less and less of a dream that is discussed at conferences and conventions and forgotten at home. It will be a living force that dominates and characterizes the practices and thinking of teachers of America.

COORDINATION OF SCIENCE AND INDUSTRY

By EDGAR A. BAIRD

CHICAGO APPARATUS COMPANY, CHICAGO

SCIENCE is the academic background of industry, crafts, inventions and the consumption of native and industrial products. Higher educational institutions and research laboratories of certain large industries are the creators of the organized knowledge composing science. This knowledge is first published in technical papers, professional periodicals and the proceedings or transactions of learned societies. Most of such knowledge is available to any one but not practically accessible. Much of it if read would mean little to the average, although otherwise reasonably intelligent and educated individual. Text-books and reference works digest and put into reasonably useful form much of this knowledge, although the statements in such works often omit detail that is important in applying the findings of research to particular problems. Eliminating the unpublished research information of private industrial laboratories as private property there remains a major proportion in the archives of public and endowed educational institutions.

Graduate students, professional research workers, special staff workers and college professors are the individuals who are best equipped to work in this literature. They too are the ones who are best trained to interpret technical scientific truth and its applications to industrial uses and for consumers. Composing the graduate schools and the scientific staffs of higher educational institutions are thousands of individuals whose services seemingly might be made accessible to industries and consumer agencies. Under the present system graduate students seemingly have no very effective means of offering their services to profitable employment. Many of them are fully equipped for such service but are far more specialized than any one small industry or a consumer could profitably employ. Most problems requiring service from higher science are highly complex. A single problem is likely to involve human physiology, organic chemistry, delicate electrical measurements, biological knowledge or other technical factors. Failure to take proper cognizance of any one of the factors may mean failure in solving the problem.

A casual dismissal of the situation is likely to be an attitude: "Industry should avail itself of this service" or "Why do not our scientific people sell themselves to industry?" The reason is that few industries could afford to maintain a sufficiently large staff of trained scientists with the necessary laboratories and libraries. Science workers are not trained in business, not that business is incomprehensible to them, but research work and its methods are not and can not be attuned to industrial methods.

This interdependence of industry and science and the practices to coordinate objectives are found in a few instances, particularly among a few special institutions and in a few very large or highly specialized industries. In such instances research problems of far-reaching significance are undertaken at the institution by funds provided by the industry.

A few schools have successfully pursued a practice of combining industrial employment with education, but in such instances the institutions have concentrated on training in the higher crafts rather than in the more technical sciences in relation to industry.

An outstanding service undertaken in practically every state is the coordination between agriculture and agricultural colleges. For the most part the plan has been preeminently successful. As a result stock breeding, dairying, control of insects, plant

diseases, improvements in crop plants and soil practices have been materially improved. Under the arrangement there has been direct assistance both to the producer and to research. The problems of the institution have been far more difficult with agriculture on account of its inherent business management than would be true in working with industries. A phase of that work most nearly approaching what might be expected in industrial undertaking has been that of plant disease control, wherein, within a relatively short span of time after the institutions seriously undertook the work, marked results have been obtained. The methods employed are such as might be employed for coordination of the sciences and industry—growers and shippers supply the problems, institutions give immediately available information and undertake necessary research. The facilities of biology, bacteriology, chemistry and physics are applied to problems at hand by skilful administrators, men who do not hesitate to contact the operator, who understand personal and professional ethics to a degree sufficient to get proper coordination of interest and activity of institutional staff members and have the vision to make such services the training ground for workers. The results are that in a number of state institutions there has been developed a system that copes with the situation in that field with a high degree of efficiency.

In industry, under the present system, what is the situation? There is scarcely an industry that at times can not use the results of research either in a process, the design or specifications of a product or to assist in setting forth to consumers the proper application of its products.

Many industries employ one or more scientifically trained men. To procure such men the industries turn to institutions of higher learning. A business man with the best of intentions seeks a technically trained man. He applies to an engineering school or a school of chemistry directly or through the placement bureau. These agencies are at once interested in the placement of one of their men. If conscientious, the professor concerned, possibly of chemistry, may analyze the situation at hand and state that the job in question involves more than chemistry, but he is inclined to accept the proposal that it is more chemistry than anything else, and so a chemist is placed. A placement bureau is likely to have the residue of candidates from all departments, many of whom have been on the lists for months. Obviously, the placement agency desires to place a candidate and hits it as near as possible. The qualifications on paper often look quite different from what they really are. The attitude of the employer or the agency is likely to be, "At least, let this candidate try." At times such placement works out to the satisfaction of all concerned, but too frequently it does not.

Industry seeks a man trained in that field of science inherent to the industrial processes involved and with his knowledge it frequently carries on without exploiting other fields of science that might be of material assistance. A large industry may employ a staff of scientifically trained personnel which if properly coordinated stands a fair chance of successfully detecting and solving problems as they arise. But even in such an instance the chemist may be an analytical chemist and overlook some relatively simple application of physical chemistry; the biologist may be trained in pharmaceutical biology and not know the anatomy or habits of insects necessary to apply proper toxic reagents for their control, knowledge of which might assist the industry materially.

A chemist in the technical laboratory of a tannery recently was seeking information on histological technique in an attempt to follow changes in the structure of skin dur-

ing the tanning process, to test the efficiency of new processes being tried.

A sales manager of refrigerators brought to a laboratory the inner parts of one of his refrigerators to obtain knowledge of organisms having to do with food spoilage and taints. He was amazed to know that much had been published on critical temperatures and moisture requirements of microorganisms and that there was any real identity of such organisms. What he needed was some one with proper biological training to digest some literature. A consulting laboratory would have undertaken the project, but no such laboratory was properly equipped to handle the problem economically. The charges of such a laboratory when added to the cost of publication would have been out of proportion to the benefits to the refrigerator manufacturer. The information is available to any one, but not in as useful a form as it would have been, for example, if the manufacturers could have incorporated it in a hand-book on the use of a refrigerator.

A manufacturer designs a new or perfects an old instrument for which there is seeming demand. His technical men apply their talents, and the criticism of one or more college men who seemingly should be versed in the use of the instrument may be sought. The result is an instrument, possibly the best on the market, but far short of what it might have been had men from several fields been given the opportunity to offer suggestions. There are numerous instances of consumers desiring to use a product that is nearly right, but on account of some minor detail does not quite qualify. Contributions from a wide field of technical applications would assist in original design and make the product more universal, thus reducing the cost as well as fulfil many a consumer's need.

A struggling briqueting industry, attempting to develop a market for the low-grade fuel resources of the state, asked its state university to assist it in several problems encountered, the practicality of several proposed binders to cement the fuel after carbonization and likely uses that would lead to the disposition of by-products. The state institution deemed it impractical to undertake the projects involved, largely because it was not properly geared to that sort of activity. The industry did obtain its information from a foreign source in a country where close coordination between science and industry is maintained.

A casual inquiry from an industry coming to a university by mail may be tossed from department to department, and is finally answered by a member of the extension division or a graduate student who seemingly is working on a problem allied to the inquiry. In such case the reply may contain some interesting facts, but probably is not a solution to the problem at hand. The inquirer may not have asked the proper question or the respondent fails to grasp the problem.

A similar deplorable situation exists among young men trained in any one of the fields of pure science. He has the ability and training to become a valuable asset to many an industry, but the coordinating agency by which he could be of profitable service to the industry is lacking. If he becomes employed by an industry he is isolated there and is worse off than a plumber on the job without his tools. In this case the tools are back at the institution where he was trained. A bricklayer may arrive at a building under construction and is ready for work but not so with a scholar proposing to do scholarly work. His tools are an up-to-date technical library, laboratories and academic associates. As a student he complied with all the institutional requirements as to general and major requirements; he is a physicist, an electrical or mechanical engineer or an analytical chemist. He desires a job. Teaching seems to be the easiest outlet, but the field is full

and he is anxious to maintain his academic contacts until an industrial job comes along. He accepts a lower teaching staff position and is soon forgotten. He is wasting several critical years of his life, not developing his preparation for industrial service. On the other hand, if he is lucky, upon graduation, he is accepted by one of a relatively few large industries that maintains a school for the training of industrial technical workers. It is important to observe that such industries do consider this training essential.

The opportunities in the smaller industries are entirely overlooked in the system. The college professor or administrator is likely to sit smug in his chair and wonder why industry does not come to him for advice or use his trained men. In many instances industry has tried, on the assumption that a college graduate or a Ph.D. can solve its problems. A candidate is likely to find that his training is not quite applicable to the problems at hand. If he is employed and is resourceful, and the employer sufficiently patient, he may after several years succeed, but in many instances much will not be accomplished because there is still a vast field of resources that are not easily accessible to him, namely, the library and research information of a nearby institution.

In an industrial area in any one among the numerous industries that employ one or more technically trained men there is almost sure to arise sooner or later, if the technical man is awake to his opportunities, a problem that requires the methods or results of scientific research. It may require a mere application of information available in the literature, a research project or it may require a technical skill which he does not possess. In fact it may be a relatively simple technique of which he, trained in one of the special sciences, has little or no conception. He may not know the range of possibilities of the technique or he may not even know that such technique exists. His lack of knowledge is not his fault nor that of the institution from which he graduated. It is merely a state of affairs generally recognized in the field of science, namely, that science is not chemistry, physics or mineralogy but rather is a complex of scientific principles from all fields and involves numerous techniques. Industrial requirements are likely to demand phases of science that seldom are combined in the usual divisions of the sciences.

If industry is to survive the increasing demands upon it and if education is to continue its past progress there must be evolved a method by which industry can more directly realize the benefits of education. Workers can not be over-educated, if educated for and in service; they may be educated away from work or educated for academic activities only.

To bring the numerous industries and the state or endowed institutions together requires an agency promoted and maintained by the institution at a reasonable cost. The manager of an industry is accustomed and is willing to pay for services. Those services that in terms of his cost accounting department he can not afford he is likely to pass up.

Private research is expensive, and technical consulting has a title that is likely to demand high remuneration. Some industries by special opportunity have derived material assistance from educational institutions and in other cases have paid heavily for advice or a process that had little merit. A controversial subject between administrative authorities and salaried specialists in an institution is whether or not the specialist can sell his services outside the institutional activities. In some cases it is permitted, in others not. Industry, surprisingly, has never pushed hard the question as to what service it should expect, either free or at a relatively low

cost. Few industries are inclined to seek assistance from professional men if there is no business-like agency through which the approach can be made. Neither will staff members care to risk their standing if to cooperate means clandestined negotiations, on time outside their regular schedules of duty and under a system that provides no administrative machinery by which the non-technical questions can be eliminated from the project.

Assume that a university located within an industrial area undertook to set up an administrative agency to coordinate its facilities and the problems of industry. The administration of the service would consist of a special bureau or department. Such a bureau would be the means of contact between the industries and the science service available from the library and members of the staff of the institution. Much of the service would be supplied by a digest of available knowledge in technical literature; another part would be tests, applying regularly employed techniques to a particular process; and finally investigation of problems that would require a little or extensive research. In cases requiring such research, the service would involve higher staff members who would make a tentative analysis of the problem and submit a statement of the magnitude of undertaking and estimated cost and other specific recommendations. Much of the work in response to inquiries could be done by upper-class undergraduates and graduate students. Since this work would be training for industrial service the costs could be relatively low.

As a result, the establishment of such service would involve first an administrative head, a group of student assistants who by employment would be taking industrial training for credit, and a specially selected group of trained scientists, the regular instructional or research staff or, as the system grew, men devoting their entire time to the work.

It is true that the result would be a much greater emphasis on applied science but this in turn would stimulate research, and would present a large number of relatively simple research problems for the beginner in research that would be far more stimulating than many of those now offered. Such an undertaking would require a closer coordination within the institution between the various fields of science and contribute valuable knowledge to curriculum building. It would give a training to students desiring science education for industrial employment, and with such training industry would be much more inclined to employ them than men trained in pure science without thought of its industrial application.

With such a system established, the graduates trained at an institution and later employed by an industry would be in better position to assist the industry and the educational institution in coordinating their mutual interests.

Its administrator should be a man experienced with the business man's point of view. He should know university organization and the temperaments of scientists and be sympathetic to the ambitions and aspirations of young people who seek industrial training. He must be willing to visit the industries, awaken their interest and set forth clearly the services he has to offer. He must be able from his own training or with properly selected assistance to analyze the nature of industrial problems in order to properly apply the institution's facilities.

Such a system if operated with open doors and by an administrative head who knows both industry and the inner workings of academic institutions could coordinate the needs of industry and consumer with the vast unexploited services that are now going begging for employment.

EDUCATIONAL EVENTS

CHILD GUIDANCE CLINICS IN SCOTLAND

THE first Child Guidance Clinic in Great Britain (the Glasgow University Educational Clinic), according to the Information Service of the International Bureau of Education, was opened in Scotland, at Glasgow, in 1925, in close contact with the university departments of education and psychology, under the leadership of Professor Boyd, the staff being mainly drawn from graduates in education, who combine a thorough training in the theory of education with practical experience in the schools. Other clinics were soon opened, some of the first of them in the industrial western district, at Greenock, Paisley and Clydebank, and under the guidance of the staff from Dr. Boyd's clinic. Notre-Dame Training College in Glasgow opened one about five years ago. Three clinics are now in existence in Edinburgh—the University of Edinburgh Psychological Clinic for Children and Juveniles, opened by Professor Drever some twelve years ago, and directed by him; the Moray House Training College Educational Clinic, under the direction of Miss Margaret Drummond and Miss Edith Thomson, and the Edinburgh Catholic Child Guidance Clinic. Dundee has a clinic working under the auspices of the Scottish Association for Mental Welfare; there is one in Aberdeen, opened in 1932, and directed by Dr. Walker, lecturer in education, and Rex Knight, lecturer in psychology at the Univeristy of Aberdeen. The staffs of the Child Guidance Clinics are almost wholly voluntary.

The work of all these clinics is coordinated by the Scottish Child Guidance Council. This council studies the technical problems submitted by the clinics; its members have compiled a comprehensive and critical list of the tests now in use; they have also prepared a list of "approved schools" and institutions, containing all the information necessary to make a judicious decision regarding a child in need of institutional treatment. The aim of the clinics is to provide appropriate treatment for children, who can not adjust themselves to one or other of the social groups to which they belong, the home, the school or the community.

Fifty per cent. of the children are brought to the clinic by their parents, who are more and more inclined to seek counsel in their educational difficulties. The clinics keep in close contact with the homes and the teachers, and maintain friendly relations with juvenile courts, town councils, provincial committees, local branches of the British Medical Association, the Educational Institute of Scotland, etc. In 1936, regional committees were established in the north, west and east of Scotland.

During the year 1935–1936, the Glasgow University Educational Clinic started a two-years course in child guidance intended for teachers, which is conducted in conjunction with the Glasgow Provincial Committee for the Training of Teachers.

THE NEW COLONIAL WING OF THE JOHN HAY LIBRARY AT BROWN UNIVERSITY

EXCAVATION for the Colonial wing of the John Hay Library at Brown University, to be erected at a cost of $150,000, began on November 29. This addition will increase the library's stack space by a third and will provide two new reading rooms.

This is the sixth project on the university's program of construction, rebuilding and modernization since Dr. Henry M. Wriston became president two years ago. The largest of these is the Metcalf Research Laboratory of chemistry, which was opened in September.

In keeping with early Georgian buildings of the university, the new wing will extend 57 feet northward from the central court and west stack of the present John Hay Library, and will be 65 feet wide. It will be built of brick with white trim, facing Prospect Street. Contracts call for completing the extension by June 1. The wing will be three stories in height, although only two stories will be above ground level as seen from Prospect Street. Two reading rooms, with special lighting and ventilating features, will occupy the front of the wing. One room will be at street level and will accommodate eighty students. The second reading room for sixty students will be on the floor above. Most of the rest of the extension will be given over to stack space for about 150,000 volumes.

The chief benefits from the extension will be

the relieving of the severe overcrowding in the present library and making more books more easily available to students. A library counselor plan has been introduced to encourage informal use of the library, which now contains over 600,000 volumes. Divisional libraries also are being planned. It is proposed to establish a humanities library in the main building, incorporating the modern language books in Marston Hall. The present exhibition room, now temporarily filled with stacks, will be used as a humanities reading room.

Re-arrangement of seminar rooms and more space for seminar groups will be possible in the main building after the extension is finished, according to Dr. Henry B. Van Hoesen, university librarian. Additional faculty studies will be provided in the main building, and seven or eight others in the former graduate dormitory at 57 Waterman Street, which will be connected with the new wing.

The extension will be fireproof. Its interior design will be simple and informal, arranged for "usefulness rather than for show." The architects are Coolidge, Shepley, Bullfinch and Abbott, of Boston, the same firm which designed the John Hay Library in 1910.

STATE APPROPRIATIONS FOR THE UNIVERSITY OF MINNESOTA

IT is reported in *Minnesota Chats* that the regents of the University of Minnesota will request the same support from the 1939 legislature that was asked of the preceding session in 1937, namely, $8,000,000 for the biennium. On the basis of this request in 1937, annual support of $3,500,000 was allowed. In addition appropriations for three structures, a new classroom building to supplement Folwell Hall, a field crops building at University Farm and a new building for the large department of mechanical engineering will be requested.

In a booklet issued by the university six basic reasons are given for the appropriations asked. These are:

Collegiate student enrolment has practically doubled since 1921. Yet in the face of this fact the state appropriation for the 1937–1939 biennium was an increase of only 10 per cent. over 1921–1922.

In 1937–1938 the state appropriation per collegiate student was approximately $186, as compared with $332 in 1921–1922. If the state appropriation per student were now on the same basis as then, the appropriation for general maintenance would be $6,786,095.

The number of high-school graduates continues to increase, and the task of the university will unquestionably be greater.

The University of Minnesota now has the largest enrolment in its history.

The university has had extreme difficulty in holding the more competent members of its staff, attracting younger scholars and replacing the men whose outstanding achievements have made the institution what it is to-day, but who have been lost through death or retirement.

The University of Minnesota has endeavored to maintain a high standard of instruction. To continue the maintenance of this standard requires that appropriations more nearly keep pace with increases in enrolment and increases in demands for service.

Sums requested for the various special services which the university performs at the request of the state are as follows:

For agricultural extension, $40,000; for county extension agents, $103,400; for soil surveys and field experiments, $18,000; for dairy manufacturing, $5,000; for diagnosis laboratory of the livestock sanitary board, $25,000; for crop breeding and testing, $4,000; for beneficiation of low-grade manganese and iron ores, $15,000; for the direct-process beneficiation of low-grade iron ores, $18,000; for cast-iron pavement study, $7,500; for medical research fund, $25,000; for Institute of Child Welfare, $30,000; for Psychopathic Hospital, $75,000; for the state's share of Minnesota General Hospital support, $200,000; for production of fuel from peat, $7,500. These are all annual figures.

THE MIDWEST CONFERENCE ON CERTIFICATION

REPRESENTATIVES of the certificating bodies of seven midwest states met on November 22 at the call of Agnes Samuelson, Iowa State Superintendent of Public Instruction, to consider common problems pertaining to the certification of teachers in this region. The following were the states represented: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and Wisconsin.

Representatives from Illinois, Michigan and South Dakota were unable to attend, but participated by forwarding general information concerning their problems.

Requirements for the licensing of teachers are determined by statute, by regulations of the state certificating bodies and by the standards of teacher-training institutions. In the majority of states represented, considerable regulatory powers are delegated by statute to the state certificating body. The purpose of the initial meeting was to discuss problems of certification subject to regulatory action by the state boards.

Consideration was given to both elementary and secondary teachers and administrators. A study was made of present-day policies and apparent trends, which were made available through comparative data contributed by participating states. From this information it would appear that the general pattern of teacher preparation is quite similar in the states of this area. It was agreed not only to continue to evaluate and improve the program of professional preparation but to emphasize the importance of a careful study of the broad cultural program necessary in the training of elementary and secondary teachers. It was recommended that the program for the immediate future be concerned with the certification of college graduates and that problems pertaining to two-year training programs and administrative certification be considered at a later date. The group agreed to secure comparable information, evaluate present-day programs and to act as a clearing house for problems pertaining to certification and teacher training.

A permanent organization was perfected. Dr. Russell E. Jones, executive secretary of the Board of Educational Examiners of Iowa, was elected chairman. The 1939 meeting will be held in Des Moines.

GERMAN REFUGEE STUDENT PLAN OF HARVARD UNIVERSITY

THE Harvard Corporation has voted twenty new scholarships of $500 each ($100 more than the tuition fee) for qualified refugee students of any creed from Germany, provided that each scholarship be supplemented by contributions for living expenses to an amount equivalent to $500 raised by the Undergraduate Committee on Refugee Students. Toward its own obligation under this offer the university has already been offered, and has accepted, $5,000 from the Elizabeth Glendower Evans Fund. The award of these scholarships will be administered by the Committee on General Scholarships in Harvard University.

It is expected that a large number of the recipients of these scholarships would be young men who were refugees from Germany for reasons other than the Nazi persecution of racial minorities.

It was also announced that the Undergraduate Committee on Refugee Students, which originated the plan to raise money and which is headed by Robert E. Lane, '39, of New York City, has adopted the following program:

Some well-known Harvard alumnus, not on the staff of the university, to be chosen by the undergraduate committee as permanent treasurer of the organization.

A Harvard faculty committee, chosen by the undergraduate committee, will assist the student committee on questions of policy concerning fund raising, selection of scholarship recipients, and other details. Members of the committee are: Dean A. C. Hanford, of Harvard College, *chairman;* Dr. David M. Little, secretary to the university and master of Adams House; Professor Felix Frankfurter, of the Law School, and Professor Carl J. Friedrich, of the department of government.

Refugee scholarship recipients will be limited to upperclassmen and graduate-school students.

The refugee students will be admitted at the beginning of either academic half-year, whenever arrangements are completed in each individual case.

In connection with the announcement, President James B. Conant said: "This endeavor of the Harvard College students to raise money by their own efforts to aid refugees is of importance primarily as a symbol of the determination of the younger generation to show by deeds as well as by words that the humanitarian basis of democracy is not dead. If similar organizations in other colleges and universities can raise funds to take care of capable students who are fleeing the terrors of a dictatorship, it will be evident that the American youth has not been made callous by the ruthlessness of the Russian experiment or the barbarities of the present German government."

THE UNIVERSITY OF CHICAGO ROUND TABLE BROADCAST

THE University of Chicago Round Table broadcast, oldest educational feature on the air,

has just completed its fifth year on the coast to coast Red Network of the National Broadcasting Company.

In an effort to stimulate student interest in topics of current economic and social significance, the University of Chicago has prepared, for distribution to schools and libraries, Round Table posters, to which cards containing information relating to coming programs may be appended. These cards contain announcement of subject, speakers and suggested readings on the topic of the broadcast. This poster has already been requested by some two hundred public libraries.

The program was initiated as an experiment in the broadcasting of informal discussions of contemporary problems by the professors of the University of Chicago. The spontaneous nature of the program, in which no script is used, is said immediately to have caught the imagination of the listening public. Dogmatic expression of opinion has been avoided, thus providing an opportunity for listeners to weigh the arguments of experts for themselves.

In 1933 the National Broadcasting Company offered the Round Table its Red Network facilities and, according to a national research organization, the program has now built up a national audience of a million and a half listeners.

The Round Table has maintained as its objective the discussion of current problems of paramount interest to listeners. This has necessitated great flexibility in the planning and production of the program. Subjects for discussion are seldom chosen more than a week in advance of the broadcast, and a sudden move by a foreign power or new developments in Washington may result in the scrapping of program plans. Often participants in the Round Table have not met until an hour before broadcast time.

The listener is conscious of the fact that the three participants—whether professors or outside authorities, as is often the case—have no propaganda to sell and no personal prejudices to defend. Often they do not reach a unanimous conclusion, but the aim of the program is to present opposing viewpoints whether or not an agreement is possible.

Since March of this year the Round Table discussions have been made available to listeners in printed form. The broadcasts have been stenographically recorded and with the addition of material related to the subject in the form of pictographs or maps have a national circulation.

VISITORS TO THE UNITED STATES FROM SOUTH AFRICA AND AUSTRALIA

AMONG workers in education who are visiting the United States at the invitation of the Carnegie Corporation, New York City, are the following:

G. de V. de la Bat, principal of the School for the Deaf, Worcester, South Africa, will arrive some time in February, 1939, to make a study of auricular training for the deaf. He plans to spend about six weeks in this country.

Dr. H. J. Hugo, superintendent of the Pretorial General Hospital, South Africa, will probably arrive some time in April, 1939, and plans to study medical social work in America. The length of Dr. Hugo's visit is indefinite.

Professor J. A. Maxwell, of the department of economics and sociology, Clark University, has recently returned from a six months' visit in Australia, where he studied problems of federal finance.

Dr. T. Ockerse, school dentist, Transvaal Education Department, Pretoria, South Africa, plans to visit the United States next spring in order to study the latest developments in the methods of dental treatment of school children. Dr. Ockerse probably will be here for three months.

L. C. Robson, head master, Sydney Church of England Grammar School, North Sydney, Australia, has returned to this country after a summer in England to continue his study of secondary education. Mr. Robson is on his way to the West Coast at present, having completed a short trip to various New England private preparatory schools.

Kassie B. Turner, teacher, Christchurch Normal School, New Zealand, expects to spend some time in England before arriving in the United States next summer to continue her study of infant and junior schools.

Mavis L. Wauchope, senior lecturer, Teachers College School, Adelaide, Australia, has recently arrived in New York to study kindergarten and nursery school training. Miss Wauchope plans to spend the next two months visiting educational centers in cities throughout the United States before returning to her home.

Neville L. Wright, New Zealand Government Liaison Officer, Scientific and Industrial Research Council, Wellington, New Zealand, has recently left

the United States after having visited various scientific institutions here.

IN HONOR OF DEAN FRANK L. MARTIN OF THE UNIVERSITY OF MISSOURI

DEAN FRANK L. MARTIN, of the School of Journalism at the University of Missouri, was presented on November 18 with a framed resolution recognizing the thirty years' service of the School of Journalism of the university by the Missouri Press Association.

The resolution, which has been framed and placed in Dean Martin's office in Jay H. Neff Hall, is as follows:

Gathered in annual convention, the association observes with satisfaction that 1938 is the thirtieth year since establishment, under its auspices and with its continuous approval and support, of the School of Journalism of the University of Missouri.

The association points with satisfaction to the 2,441 graduates of the school, most of whom are to-day at work in the profession here and elsewhere throughout the world, and approves of the spirit of unselfish service, respect for others, and understanding of duty, and pursuit of achievement which characterize these graduates.

The Missouri Press Association is appreciative of the fact that the school, through its founder and beloved first dean, Dr. Walter Williams, and through his able associate, the school's present dean, Frank L. Martin, has given concrete expression and world-wide publicity to the tangible idealism from which is woven the durable fabric of our profession.

To the people of Missouri, to their General Assembly, and to their Board of Curators of the University of Missouri, we commend the school and its faculty of newspaper men and women, and invoke from the people and their representatives the support and approval which the school and the university so well deserve.

Signed in the City of St. Louis, on Nov. 18, 1938, by order of the convention assembly.

The Missouri Press Association also presented Dean Martin a scholarship award of one hundred dollars which is to be known as the Helen Malloch Scholarship Fund, and will be given to a junior girl in the School of Journalism at the university next spring.

At the dinner it was also announced that the Kansas City Board of Trade will present annually two awards of one hundred dollars each to the most outstanding daily and weekly paper in the state. The papers, in turn, will each select a student from their area who will be given the one hundred dollar award as a scholarship to assist in attending school at the University of Missouri.

EDUCATIONAL NOTES AND NEWS

DR. E. H. LINDLEY, chancellor of the University of Kansas, has written to the Board of Regents of the university, asking to be relieved of his administrative work at the close of the present academic year. He pointed out that he would reach the retirement age of seventy years early next year, and expressed his desire to return to teaching, saying that he would "cherish greatly the opportunity to teach a 'Course in Living' to undergraduates."

DR. HERBERT J. BURGSTAHLER, since 1926 president of Cornell College, Mount Vernon, Iowa, has been elected to the presidency of the Ohio Wesleyan University at Delaware. He will assume his new work at the opening of the academic year next September, succeeding Dr. E. D. Soper, whose resignation on account of ill health took place on August 31. Dr. Burgstahler formerly held Methodist pastorates in Minneapolis, St. Paul, Buffalo and Rochester.

THE REV. DR. EVALD B. LAWSON, pastor for the last ten years of the Trinity Lutheran Church of White Plains, N. Y., assumed the presidency of Upsala College on December 1, thirteen years after he was graduated from the institution. The formal installation ceremonies will take place on February 6.

CLIFFORD B. JONES, a rancher, business man and civic leader of Fort Worth, Texas, has been elected president of Texas Technological College at Lubbock, succeeding the late Dr. Bradford Knapp, who died on June 11.

WILLARD EARL GIVENS was reelected for a four-year term executive chief of headquarters staff of the National Education Association at a special meeting of the Board of Trustees held in Chicago on November 27. He completed in December his first term in office, to which he came from the superintendency of the Oakland, Calif., public schools.

DR. DON M. WOLFE, of Beaver Falls, Pa., has

been made chief of the Division of Registrations and Renewals, in the Pennsylvania Department of Public Instruction. He succeeds Dr. W. Ray Smith, who has become dean of instruction at the Indiana State Teachers College.

MARGARET NAGLE, social science teacher at the Webster School in Butte, Mont., last year secretary of the southwestern district of the Montana Education Association, has become state rural school supervisor. She will make her headquarters in Helena.

ORREN H. LULL, of Denver, Colo., regional director for the western states, has been appointed deputy executive director of the National Youth Administration in Pennsylvania. He succeeds Richard R. Brown, who recently resigned.

OFFICERS elected at the annual meeting on November 17 of the New York Academy of Public Education are as follows: Dr. William E. Grady, deputy superintendent of schools, *president;* Dr. Loretta M. Rochester and Dr. Paul A. Kennedy, assistant superintendents, and Dr. Eugene A. Colligan, president of Hunter College, *vice-presidents.*

FLORIAN STEFANESCU-GOANGA, dean of the University of Cluj, Transylvania, an opponent of the Iron Guard, was shot and seriously wounded on November 28.

DR. JAMES ROWLAND ANGELL, educational director of the National Broadcasting Company, formerly president of Yale University, has been elected president of the English-Speaking Union. Dr. Angell succeeds John W. Davis, president for seventeen years, who now becomes honorary president.

THE Administrative Division of the Detroit Teachers Association gave an informal dinner and program in honor of Superintendent Frank Cody in the Hotel Statler on November 15. Dr. Cody began his twenty-first year as superintendent of the Detroit public schools and his twenty-sixth year as a member of the State Board of Education with the beginning of the official school year. Guests at the dinner included members of the State Board of Education, the Detroit Board of Education and the family of Dr. Cody.

A GOLDEN anniversary luncheon, given by classmates, former colleagues and friends to pay homage and respect to Dr. Edward Mandel, now associate superintendent of schools of New York City, was held at the Hotel Astor on December 3. Dr. Harold G. Campbell, superintendent of schools, was among the speakers. A tribute to Dr. Mandel's "loyalty, sincerity and unselfishness" was paid by Dr. George J. Ryan, formerly president of the Board of Education and now a member of the Board of Regents. Dr. Mandel, having reached the age of seventy years, will retire next May.

A DINNER in celebration of the fiftieth anniversary of the founding of the department of biology at Western Reserve University and the fifty years of service there of Dr. Francis H. Herrick, now professor emeritus of biology, was held on December 2. President Winfred G. Leutner served as toastmaster. Dr. E. G. Conklin, executive vice-president of the American Philosophical Society, professor emeritus of biology at Princeton University, gave the principal address.

DR. CHARLES MAXWELL MCCOON, who was recently appointed dean of the Washington Square College of New York University, was the guest of honor on December 3 at a luncheon given by the Alumni Association of the university.

SIR RICHARD GREGORY arrived in New York on December 1. He delivered on December 9 the Elihu Root lecture of the Carnegie Institution of Washington on "Cultural Contacts of Science." He will give an address before a general session of the American Association for the Advancement of Science at Richmond on December 29, and will be the principal speaker at a dinner of the National Association of Science Writers on December 26. Before sailing for the United States, a dinner was given in honor of Sir Richard at the Athenaeum Club, London, to mark his retirement as editor of *Nature.*

DR. NICHOLAS MURRAY BUTLER, president of Columbia University, has received a medal of native gold from the Dominican Republic as a souvenir of the administration of General Rafael Leonidas Trujillo, president from 1930–34 and again from 1934–38. Dr. Butler was honored as one of those who have "with sincere enthusiasm expressed the admiration with which

they have viewed the vast work of reconstruction in all directions" carried on by General Trujillo.

DR. WILLIAM MCDOUGALL, from 1920 to 1927 professor of psychology at Harvard University, since 1927 professor of psychology at Duke University, previously reader in the Universities of London and Oxford and fellow of Corpus Christi College, died on November 28 at the age of sixty-seven years.

MISS ELLEN LOUISA BURRELL, until her retirement in 1916 head of the department of pure mathematics at Wellesley College and its oldest alumna, died on December 3. She was eighty-eight years old.

DR. THOMAS SAMUEL RANKIN, professor emeritus of Latin at Tusculum College, died at his home in Greeneville, Tennessee, on October 30. Professor Rankin had taught Latin at Tusculum College for forty-six years, having retired seven years ago.

THE REV. DR. ROBERT ELLIOTT BROWN, professor of theology and human relations at Oberlin College, died on November 25 in his sixty-fifth year. Mrs. Brown, who survives him, is a sister of Dr. Robert A. Millikan, of the California Institute of Technology at Pasadena.

DR. ALVIS L. RHOTON, professor emeritus of education at the Pennsylvania State College, died on November 30. He was seventy-one years old.

E. NEWTON RESER, for twenty-four years director of art in the New York City schools, died on November 28 at the age of seventy-six years.

GEORGE H. BARTLE, business manager of Wilson College, Chambersburg, Pa., from 1911 to 1937, and a member of its board of trustees, died on November 26. He was seventy-two years old.

DR. JAMES BRYANT CONANT, president of Harvard University, will deliver the commencement address in 1939 at the University of Kansas.

DR. DIXON RYAN FOX, chancellor of Union University, Schenectady, N. Y., is giving this month six Anson G. Phelps lectures on early American history at the Washington Square College of New York University.

DR. WILLIAM HEARD KILPATRICK, professor emeritus of education at Teachers College, Columbia University, is giving the V. Everit Macy lectures in the Horace Mann School. His subject is "'Self, Freedom and Individuality."

DR. RAYMOND L. DITMARS, curator of reptiles of the New York Zoological Park, gave a lecture illustrated with moving pictures on November 28, the opening night of the annual arts and science week at the University of Missouri. The lecture was entitled "Our Animal Friends and Foes."

PROFESSOR N. L. ENGELHARDT, of Teachers College, Columbia University, is making a study for the American Association for Adult Education of the use of school buildings for adult education and other community uses. The trustees of the Carnegie Corporation of New York have appropriated a sum of $5,000 for its study. Kenneth Campbell, of Oklahoma; Blake Cochran, of Kansas; George W. Ebey, of Hawaii; N. L. Engelhardt, Jr., and Edwin S. Fulcomer, of New York; Stanton Leggett and Bertrand L. Smith, of New Jersey; Ludwig J. Hauser, of Illinois; Clare N. Pettit and Hubert J. McCormick, of California, and Francois S. Cillié, of the Union of South Africa, are cooperating with Dr. Engelhardt.

AN unofficial Children's Code Commission has been appointed by Governor Stark, of Missouri, to make a survey of child welfare services in the various state departments and to make recommendations to the 1939 Legislature on revision and codification of existing child welfare laws and enactment of such additional legislation as may be considered necessary. Members of the commission include: State Senator Allen McReynolds, of Carthage, who aided in the drafting and passage of the present State Social Security Act, *chairman;* Mrs. Roscoe Anderson, Webster Groves, national chairman of the Child Welfare Committee of the League of Women Voters; Dudley French, Clayton, president of the St. Louis Children's Aid Society, and Dr. Harry F. Parker, of Warrensburg, state health commissioner and secretary of the State Board of Health.

THE thirty-second annual convention of the American Vocational Association opened on November 30, under the presidency of Thomas H. Quigley, professor of industrial education in

the Georgia School of Technology, Atlanta. The convention was divided into eight sections. These were: agriculture, home economics and industrial education, commercial, industrial arts and part-time industrial education, vocational guidance and vocational rehabilitation. The speakers included: A. K. Getman, state supervisor of agricultural education of New York; Edwin A. Lee, director of the National Occupational Conference and professor of education in Teachers College, Columbia University, and Paul W. Chapman, dean of the Georgia State College of Agriculture at Athens.

THE annual convention of the National Association of State Directors of Vocational Education was held in St. Louis on November 28 and 29. The organization is an affiliate of the American Vocational Association, and its meeting was held in advance of the principal convention. A. S. Boynton, of Hartford, Conn., director of vocational education in Connecticut, was named president. Other officers chosen were: James R. D. Eddy, of Austin, Texas, vice-president, and Ralph H. Woods, of Frankfort, Ky., secretary-treasurer.

A SERIES of radio addresses beginning on November 15, over short-wave station W1XAL, Boston, is being given once a week by members of the faculty of the Harvard Graduate School of Education. Speakers and their subjects follow: Professor H. E. Wilson, "Making Citizens"; Dean Henry W. Holmes, "How Can the Public Help to Get Good Teachers?"; Professor W. F. Dearborn, "Deficiencies in Reading Ability and Methods of Remedying Them"; Dr. Payson Smith, "Critical Issues in Public School Administration," and Professor F. G. Nichols, "Twenty Years' Experience with a National System of Vocational Training." Harvard College, the Law School, the School of Public Health, the Graduate School of Engineering and the Music Division will present radio series later in the year.

A PARTIAL distribution of the estate of the late Miss Ellen Browning Scripps, of La Jolla, Calif., a member of the Scripps newspaper family, involves sums amounting to $1,350,000. Provided in the distribution is a $400,000 trust fund to be administered by the regents of the University of California for the conduct of the Scripps Institution of Oceanography and Scripps Institution for Biological Research, both in La Jolla, and trust funds of $100,000 each for Scripps College at Pomona and for the Bishop School at La Jolla.

THE building committee of the Wisconsin board of normal school regents has approved plans for a $325,000 library for Milwaukee State Teachers College. The state has set aside $178,750 for the building. The money, however, is included in the $6,620,121 La Follette appropriation which Governor-elect Julius P. Heil has tied up by a Supreme Court order.

THE schools of the city of Dayton, Ohio, opened on November 21, after having been closed for three weeks for lack of funds. An Associated Press dispatch states that Superintendent Emerson H. Landis summoned the teachers and employees back to their posts to remain "as long as finances permit." The superintendent said the board would close the schools again "when and if the funds run out." The board faced a $61,000 deficit when schools were closed. A special school tax levy was defeated in the November 8 election.

A REPORT by Mrs. Maud W. Louson, librarian in charge of the children's room of the Aguilar branch of the New York Public Library, states that children of more than seventy national and racial origins have a common meeting ground there. The number of Italians has decreased, however, from 1,431 in 1936 to 1,301 in 1937 and 901 in 1938. The number of Spanish and Puerto Rican children, on the contrary, is increasing. In 1937 there were 707, while this year 655 have already registered. The fifteen leading "nationalities" are Italian, Spanish, Puerto Rican, Negro, Jewish, Irish, Greek, German, Cuban, Russian, Polish, Mexican, Czecho-Slovak, Hungarian and French. Out of the 2,838 children who registered in 1936, there were thirty-eight who said they were "Americans." To date this year sixty-six nationalities have been recorded, including such hybrids as Serbian-Gypsy, French-German, Italian-Irish, Spanish-German and Dutch-Puerto Rican. There are many "miscellaneous" nationalities.

THE *Journal* of the American Medical Association reports that committees representing Cornell University Medical College and the Uni-

versity of Havana Faculty of Medicine have arranged for exchange of students and teaching staff for periods of study. Four undergraduate students or members of the teaching staff of Cornell will study parasitology, tropical diseases or any other subject of special interest for six weeks in the summer in Havana under the auspices of the university. Three undergraduates in medicine or members of the teaching staff of the University of Havana will have the opportunity of studying at Cornell for a period of eight weeks, one each in the fall, winter and summer. Each university has agreed to grant to each visitor on satisfactory completion of the work a certificate covering the studies pursued and the time employed thereon. The studies at the respective schools will be supervised by special committees. Dr. Wilson G. Smillie is chairman of the committee at Cornell, and Dr. Alberto Inclán of the committee at Havana. The agreement is in effect for one year.

IT is stated in *Nature* that the thirty-ninth annual meeting of the Science Masters' Association will be held in the University of Cambridge on January 3–6, 1939. On January 3, Professor J. Gray will deliver his presidential address on "The Role of Science in Education." The following lectures have also been arranged: Professor E. V. Appleton, "The Upper Atmosphere"; G. C. L. Bertram, "Animals of the Antarctic"; Professor R. G. W. Norrish, "Experiments in Photochemistry"; Professor W. L. Bragg, "X-ray Optics"; Professor O. T. Jones, "The Making of a Geological Map"; Dr. H. B. Cott, "Visual Concealment in Nature and in War"; N. E. Odell, "Everest, 1938." On January 6, a discussion will be held on "Films in the Science Classroom." Further information can be obtained from Mr. W. Ashhurst, The Grammar School, Stretford, Lancashire.

IT is stated in *The New York Times* that because certain foreign schools operating in Brazil in disrespect of Brazilian law are engaged in anti-Brazilian propaganda, the Education Secretariat of Rio Grande do Sul has issued a statement that all such schools will be closed. The German college at New Wuerttemberg has already been closed.

AN Associated Press dispatch from Berlin states that a reliable source at Vienna reports that contracts of an undisclosed number of Austrian Jewish musicians engaged to teach at the Music Conservatory in Kobe, Japan, had suddenly been annulled by the Japanese government. The disclosure followed by two days the signing at Tokio of a German-Japanese accord on cultural cooperation on the anniversary of the Japanese-German-Italian anti-Communist pact.

A DISPATCH from Metz, France, reports that approximately 1,000 Jewish children crossed the frontier on December 4 from Germany for new homes in France and England. Most of the children, whose ages ranged from 7 to 14, will be cared for by families in the vicinity of Metz, Strasbourg and Mulhouse. It was said that all were children of Jews who were expelled from Germany or died during the Nazi anti-Semitic campaign. Most of them were from Berlin, Munich and Vienna.

ACCORDING to press reports a committee of British Jews now in Berlin has disclosed plans to take some 5,000 Jewish children under 17 to England in the near future. The committee hopes to find English homes for them. The children can be absorbed only gradually, it was said, but the committee plans to call for English volunteers to take them into their homes. Jewish sources said that 300 Jewish children up to 17 were slated to leave Germany at once for havens in England. The children were in three contingents—from Berlin, Hamburg and Vienna. It was said they would go by way of The Netherlands and be placed at first in a "welcome camp" at Harwich, England. The children would be "sorted" in England—those from workers' families to go to similar families in England and children with special artistic or mechanical talents to families of artists and engineers.

SHORTER ARTICLES AND DISCUSSION

MORE ABOUT HOBBIES

SO much is written about hobbies that it may seem superfluous to add any more. Yet perhaps not superfluous, if it is possible to say what has not been said, or say something in a new way, about a topic so dear to the public mind.

I grew up in England, where most people collect something or have a hobby, and it always seemed part of normal life. To-day, the cultivation of hobbies is more urgent than ever, because the hours of labor are progressively shortened, and the years of gainful labor tend to be reduced, so that people have, on the whole, much more so-called leisure time. There should always be, as William Morris used to insist, periods of restful contemplation, of enjoyment without activity, of appreciation rather than creation. Yet it is profitable to divide the active period into that which is directly gainful, which pertains to our job, and that which affords a change and leads us into new pastures, which we cultivate at our leisure. This becomes possible in a well-ordered society, where life is not too strenuous, and it is at such times that originality shows itself, and new ideas come to the front. Thus, from the standpoint of social progress, the products of the unbound time are of prime importance, the more so because the mechanization of industry tends to make us all slaves of the machine.

A hobby may be defined as an occupation or interest which enlists both the intellect and the emotions, and is progressive in its nature; while at the same time it is not the means of livelihood. Occasionally, it may become financially profitable, but this sort of gain is not the impelling motive. In some cases, there is no gain of any sort to be made, except the interest or amusement of the individual; but as the possible choices are so wide, I would strongly advocate the adoption of a hobby which is likely to prove of value as adding to knowledge, creating beauty or in some way rendering social service. Such a hobby brings its rewards in the good fellowship with others similarly engaged and the consciousness of having made some contribution to the common good.

Leaving generalities, I will venture, I hope without offense, to briefly relate what I saw and heard during a short visit to Arkansas, a State I was seeing for the first time. Everything was so new to me, and impressions came so fast, that I could write a great deal about my experiences, but perhaps the most significant had to do with four admirable examples of hobbies. At Monticello I visited Adrian Williamson, a pupil of many years ago, now a prominent lawyer. He has built a small observatory, and has perhaps the best telescope in Arkansas. One of a band of amateur astronomers scattered all over the country, he takes part in the observation of variable stars, and such amateurs have on several occasions discovered new stars or comets. The great telescopes of the professional astronomers are of course essential, but any one of these learned men will tell you how astronomy has been indebted to the amateurs. Added to this, is what we may call the cultural aspect, the effect of the contemplation of the heavens on the human mind. The vastness of space, the enormous distances, the tremendous events we witness, all give us the feeling of extreme humility. We are as specks of dust in the cosmos, seeming utterly unimportant. But then, we change our attitude, and consider that of all known sentient creatures, we alone can contemplate all these phenomena with a knowing mind and seeing eye; can actually understand, in very large measure, what is happening and has happened, and what will happen in the future. This minute creature, man, takes on a new aspect, and we marvel at the development, on a humble planet, of such transcendental powers.

The second example is quite different. Miss Inez Whitfield, of Hot Springs, is a cripple, who can not walk across the room, but goes about in a wheeled chair. But in spite of her physical disabilities, she is a leading citizen, prominent in many good works. Having excellent skill with pencil and brush, she has for years made it her purpose to paint, in water colors, the native flowers of Arkansas. Her collection of several hundreds of these paintings has unique value, and will I trust be preserved some day in a special gallery, for the enjoyment and instruction of many successive generations of people. Few there are with the ability to render such a service or the persistence to see it through.

Another case, again wholly diverse, is that of C. M. Barber, who has a Nubian Goat Dairy on the Little Rock Highway, on the outskirts of Hot Springs. Mr. Barber, whom I have known for fully forty years, has the spirit of a naturalist, though circumstances have prevented him from becoming a professional. In recent years he has entered upon a careful study of the fossils in the Upper Cretaceous rocks of Arkansas, belonging to the period when the

country was beneath the sea. In the region near Arkadelphia, he has found remains of many turtles and other reptiles, strange fishes and other ancient animals. One of his larger specimens is now in the British museum. He is especially interested in the turtles, of which there are many kinds, some of them probably new to science.

The fourth case resulted from Barber's activities. Dr. Wm. H. Deaderick, of Hot Springs, a noted physician now retired from practice, accompanied Barber on some of his excursions, at first merely from curiosity. But he learned that there were minute fossils as well as large ones, and it occurred to him that as he had been accustomed to use the microscope during many years, he might continue to use it in the examination of micro-fossils. In these same cretaceous rocks, there are deposits full of the most beautifully preserved shelled Protozoa, the Foraminifera which in recent years have become so important in oil geology, as they come up in the borings, and help toward the recognition of the strata. Dr. Deaderick learned how to extract these minute and fragile, but very beautiful, objects by boiling, and now has a large collection, beautifully mounted, though he has been at it less than half a year. Experts, examining some of his specimens, find species new to science.

Thus, in a visit of a few weeks, I find these diverse examples of so-called non-gainful occupations, all of which are profitable in a higher sense, as giving pleasure, developing the powers of the mind and different kinds of skill, and as contributing to knowledge and progress. There were other examples of which I learned a little, not enough to describe them intelligibly. When we think of the struggles, the bitterness and hatred, the envy and malice, so apparent in the world, it seems at times that our poor species is doomed to bring itself to misery if not to destruction. But there is a way out, and fortunate are those who find it. Many could not afford to have an observatory, or develop the skill to paint, or the time and knowledge to study fossils; but nearly every one can find a good activity, and in so doing discover himself. Such endeavors create friendships, instead of destroying them, and become part of the great international republic of science or art, which brings the peoples of the world together in a common effort to increase knowledge and develop skill, to the advantage of all concerned.

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UNIVERSITY OF COLORADO

CAMPUS CONFESSIONS

NOT long ago a Canadian friend of mine asked me if American college life was as it is depicted on the screen. I was unable to answer him; I had never seen a college picture in the States. His voice had a note of horror in it that made me curious to learn just what idea the movies were giving the public on this ever prominent phase of American life—higher education. I felt that I could be a fair judge, since the greater part of my own life has been spent on the campus as student and teacher, incidentally, in such a contentedly full existence that I have seldom found it necessary to seek "escape" via the silver screen. Last night I went to "Campus Confessions" to satisfy my foreign inquisitor as much as myself.

The play began with the arrival of the students for the fall term at Middleton College. (I presume the name implies that here we are being introduced to the typical collegiate institution.) They appeared upon the scene in the prescribed "leaping Lena" taxi of post-war, high-school affectation, and engaged in the slap-stick comedy act dear to the hearts of the Laurel and Hardy clientele. The dazzling blonde—the type that populates "dumbbell" sections in freshman English, if she gets into college at all—has by this time revealed all her most ingenuous charms to the incoming class of potential Babe Ruths. She is an upperclassman (she must have been the "wonder-child" of the century to pass the eighth grade!), and has all the crew-cut youths at her beck and call. From the farcical opening, the audience is thrown precipitately into the crux of this problem drama: "Should Middleton be allowed to continue her athletic program or must she sacrifice her place on the 'Little Ten' to the intangible benefits of intellectual attainment?" The council chamber of the board of trustees is thrown open to us to reveal the dean of the college (cast as a glorified business man) discussing the pressing matter with the vociferous president, who is made to seem utterly ridiculous in his plea for the precedence of

mental over physical development. In the light of President Hutchins's recent efforts toward a rehabilitation of the intellect, *in suo loco*, as the only object of the process of "eduction" commonly known as education, it is especially deplorable that such a distortion of the meaning of an A.B. degree should be foisted upon an uncritical general public. Furthermore, the president's son (in the story), who represents—in his thinking, at least—the average earnest student, is presented as an even more hopelessly dull character than his father, completely maladjusted to the "rowdydow" disorder of the freshman confraternity. He is the hero of this sheepskin saga and fulfils his destiny by being converted—as he discards his books, his glasses and his brains—into a pomaded, beslacked, soda-sipping athlete, who leers at the buxom blonde and, as she marvels at his metamorphosis, philosophizes: "It's just what a college education has done for me." If such be the case, then we do need a redefinition of education!

One wonders if the producers of such a performance have ever been on a campus or ever attended a university lecture or ever known a professor. It strikes this writer as incredible that such caricatures could be conceived by a mind that had any contact with the actualities of normal college living; some reality would be bound to creep in, and there is none in either the setting, the plot or the characters. The setting is entirely composed of extra-curricular activities which can not be said to represent a cross-section of college life; the plot conforms to the background and develops mainly on the basketball court; the characters are cut from cardboard and are as shallow and untrue. A college instructor naturally resents the portrayal of a supposedly typical member of his profession as the weasel-faced, frock-coated die-hard, bent under the load of a black brief case and horn-rimmed spectacles! Such a delineation always reminds me of the comic-strip poet, with long hair and a wide black neckcloth tied in a bow, as contrasted to a poet in the flesh such as Mr. MacLeish in his belted tweeds and general "collar-ad" appearance. Not that the poetic afflatus can be measured sartorially (if I may be permitted the coinage) any more than the pedagogical aptitude; the objection is made only in the interests of veracity.

The question that inevitably follows—"What can be done to dissipate this false idea of the benefits of higher education, this idea which undoubtedly prevails in the minds of the majority of those who have had no experience with a real campus?"—is best answered by urging all teachers, especially those in the secondary schools, to draw attention to the one-sidedness of such a picture. College instructors and administrators must also make constant protest both in the public press and to those cinema companies which put out these lying impressions of college life. If such misconceptions of American institutions of higher learning are released abroad, it is no wonder that our system should be held in contempt by foreigners and our degrees considered empty kudos.

The influence of the movie has become of so great a force in modern thinking[1] that we can not overlook the prevalence of this Country-Club idea of the college campus in the minds of many parents who refuse to send their children for fear that they will become more useless than they are already. The film version of collegiate education certainly does not help to lay the bogies of utilitarianism and pragmatism, cherished by the American populace as the terminus of any preparation for life. Other boys and girls frequently waste an entire year in becoming orientated to the unfamiliar regimen of the student life they failed to anticipate because of the misrepresentation that had been made to them. Too many freshmen "go to college for a good time," not because they are potential playboys or social-butterflies, but because they have been misled to expect nothing else. Their ideas, of "book-worms" and "varsity gods," of the "boasting flunker" and the "seedy prof.," of the empty "libe" and the "Junior prom," as the only glossary of the terminology of scholarship, are a carry-over from such movies as "Campus Confessions" which, even in its equivocal title, is a slander upon the decorum of the precincts dedicated to intellectual refinement. That individuals sometimes desecrate a holy place is no reason for branding that place unholy.

MONIKA KEHOE

MILLS COLLEGE, CALIF.

[1] I hesitate to use the word "thinking" in connection with the movie habitué. Perhaps I should more exactly describe the process as "impression which resolves itself into action"—with a minimum of the rational intervening.

SPECIAL CORRESPONDENCE

HEALTH CAN BE PURCHASED

IN 1848 Horace Mann wrote, "Health is a manufactured article,—as much so as any fabric of the loom or workshop; and, . . . generally the how much, or how little, health any man shall enjoy, depends upon his treatment of himself; or rather, upon the treatment of those who manage his infancy and childhood. . . ."

To-day this prediction of a great Massachusetts educator is appropriately being realized in such Greater Boston communities as Brookline, Melrose, Quincy, Medford, Braintree, Duxbury, Haverhill, Needham, etc., where devoted school committees, superintendents, principals and directors of physical education are showing the nation how to "build health," as Horace Mann put it, into children.

The process, which begins with thorough medical examinations and follow-up services and health instruction for first graders, culminates in a high-school physical education program based on physical fitness tests and adapted to individual pupils' needs. The tests are the standard P.F.I. battery, given to each pupil twice or more annually. Since these are the basis for determining pupil needs and measuring progress in physical fitness, a note on them is in order.

THE P.F.I. DEFINED

The *Physical Fitness Index* is a measure of physical condition. It is calculated by dividing one's achieved *Strength Index* by a norm for one's sex, weight and age at the time of testing. The average individual less than 21 years old will have a P.F.I. of about 100. Others less than 21 years old will have P.F.I.'s varying from about 40 to 200. Older persons will decline in P.F.I. until at death their P.F.I.'s will be 000—as will also be their powers to perform physical acts.

WHAT HIGH P.F.I.'S INDICATE

Individuals with indices above 100 will have greater physical and mental endurance and precision of movement than those with lower scores. That is, they will be able to keep going longer, more efficiently and at greater speeds, and recuperate faster from fatigue or illness. They will be able to do more work in a given time than others of the same sex, weight and age whose P.F.I.'s are lower.

WHAT LOW P.F.I.'S INDICATE

The lower the P.F.I. the greater the need for special exercise, diet and advice by physicians and physical educators. Low P.F.I.'s are the results of physical defects, improper food or eating habits, improper exercise, emotional disturbances or other physical or mental strains or drains or injuries. Individuals with P.F.I.'s below 85 to 90 ought to engage in *supervised* remedial activities or rest daily, until their indices are 100 or higher. Otherwise they are likely to decline steadily in physical fitness to even lower levels.

COMPARISONS

Repeated P.F.I. tests are of inestimable value in determining whether one is gaining or losing in physical fitness and therefore whether one's corrective régime is adapted to one's needs. Many cases are on record of obscure defects and wrong habits, which escaped the attention of physicians and physical educators, being discovered through comparison of P.F.I. records. It is easily possible for individuals of almost any age to raise their P.F.I.'s from 40 to 100 per cent., with a proportionate increase in physical fitness, power for service and personal happiness.

Using these tests and providing a wide variety of gymnastics, games, stunts, sports, corrective exercises, rest and specific health guidance, Melrose educators, for example, have raised the average physical powers of high-school pupils from the already high figure of 117 to the ideal level of 130. This means that the average health or "capacity for activity" of Melrose high-school pupils is approximately 30 per cent. above that for pupils in a typical American community, and 15 per cent. above that for pupils in similar Massachusetts communities. Stated otherwise, one hundred Melrose pupils have the capacity for activity or performance or endurance of a hundred and thirty average American children of the same age and weight.

An examination of the Melrose High School physical and health education programs will reveal to the cognescenti how and why its pupils are so healthy. Tests are given frequently, results are followed up without let or hindrance, no stone is left unturned to get at "the cause of

the cause of the cause" of deficiencies. The cooperation of parents, teachers, administrators and medical officers is well-nigh perfect. But above all, the reasons for such great success are three: determination to improve health, rigorous testing and retesting to determine needs and results and unremitting follow-up services by teachers and others.

As examples of how Mr. Leonard W. Clark, the local director of physical education proceeds, the following case reports are reviewed.[1]

(a) The case of George, whose P.F.I. was 92 in February, 1937. This P.F.I. was not low enough to cause the Director great concern. George was placed in the corrective class and efforts were made to reduce his weight and increase his strength. But in June 1937 his P.F.I. was only 94. Again the Director strove to interest George in his own fitness sufficiently to bring about a considerable increase in health. In September his P.F.I. was again 92.

Now the Director took a new tack. He had a long conference with George. No significant facts appeared. He visited the boy's home, where moderate wealth was apparent, to check with George's mother concerning food, rest, recreation and mental activity habits. Nothing helpful emerged. The boy was next sent to his family physician who declared him to be "sound as a nut." In spite of this report he was sent to the local hospital for a basal metabolism test.

Results:

(1) George's family physician was interviewed, and his diet and rest habits changed.

(2) Six weeks later he had lost 6 pounds. His P.F.I. was then 98.

(3) Three months later his P.F.I. was 114.

(4) Long before this the parents had written a highly thankful and laudatory letter to the local Superintendent of Schools concerning the Director's interest and efficiency.

(b) In September 1937 John's P.F.I. was 118, a good score for boys generally, but below the Melrose average. In the February re-tests John had dropped to 94. The Director immediately sought the cause. Apparently John was tired, overworked and seriously fatigued, for there was no medical deficiency. John was placed on a rest program daily and his parents agreed to cooperate by requiring him to retire at nine o'clock regularly.

Three weeks later John's P.F.I. on a special retest was only 98. (He should have raised his score to 115.) Immediately the school and family physicians were consulted. They agreed that "if the P.F.I. was so low *something* must be wrong," but disagreed slightly on diagnosis. One of them thought he detected a slight rumbling in John's chest. An x-ray was taken for tuberculosis: "two spots on one lung." John was placed on a rigid rest program. Three weeks later the "spots" were disappearing. . . . Is it fair to suggest that in the average school John's deficiency and great need would escape attention until his condition became acute? perhaps too late?

Of course, these are only examples of the more dramatic services performed by Mr. Clark and his associates, under the direction of Superintendent Herman H. Stuart and Principal William D. Sprague, and by many other physical and health education departments, chiefly in Massachusetts and New York.

To promote physical and mental health, too, in Melrose opposing teams in intramural sports (1,000 contests were conducted in 1936–37) are equalized using the Strength Index, to the great satisfaction of players and teachers. Instead of the goal of precedence over enemies, in Melrose cooperation and perfection are aims in sports: aims which are strongly effective socializing and hygienic agencies.

Thus, health *can* be "manufactured" and happiness and longevity served. To produce these results requires a negligible increase in cost to the community: chiefly willing workers with determination to achieve results by the simplest hygienic methods and using the simplest tests of needs and results.

FREDERICK RAND ROGERS
BOSTON UNIVERSITY

[1] Quoted from "An Admirable New England High School Physical Education Program." Illustrated. The Pleiades Company, Newton, Massachusetts. 30 pages. 25 cents.

QUOTATIONS

HOW I WOULD USE A MAGIC WAND

IF I could turn magician and wave a wand over the United States, this is the way I would reform our educational system:

I would eliminate from elementary and secondary school curricula the subject matter which is not adjusted to children's interests and needs. This would be done in anticipation of a definite organization for lifelong learning among adults.

I would so modify and improve the secondary

schools that practically all adolescents of secondary school age would find interest and educational profit in remaining in high school until they were 18 or 19 years old. The proposed modification of the school program would include a certain amount of practical occupational activity but only to the extent that it could contribute to the student's education. Result—high schools would hold in their wholesome environment the 3,500,000 youth of high-school age who now are not in school and are competing with adults on the labor market. Total high-school enrolment would then be 10,000,000.

I would quadruple the college enrolment and increase the number of colleges if necessary. Result—4,000,000 students in college (4/7 of the entire college-age group) instead of 1,300,000.

I would see to it that those who do not attend or complete college as well as all college graduates, except those relatively few who expect to continue their training in professional schools, were made vocationally competent to earn their living before leaving school or college.

While the broad purpose of education is to "make a life," one's life may be ruined if he can not make a living. I would give the students as much general education as possible while achieving one of the basic purposes of adolescent and adult education, which is to equip people to work. If college graduates could be self-supporting they would be more inclined and more able to marry earlier than they now do. That would be natural.

I would organize education from nursery school through adult life in a thoroughly democratic scheme in which the learners could share more readily and completely their common knowledge, ideas and aspirations.

That seems like a large order, doesn't it? But it could be accomplished. Take the ordinary high-school student—and 64,000,000 out of the 76,000,000 adults in the country didn't finish high school—we think he must be stuffed with all the information an adult needs. It is assumed that his education largely stops after high school.

The result? Much of the subject matter is beyond him, and therefore doesn't really interest him. How can a high-school student get a grasp of the whole field of government when he hasn't yet reached the voting age and in that important sense he is not actually helping to manage the government? As an adult he is more concerned about governmental matters because he is engaged in the management of his community and of the country in general.

While I would increase college facilities I would not expect that all colleges would offer the same opportunities. Moreover, more of the colleges would offer a great variety of opportunities designed to appeal to the different interests and aptitudes of the students. I would like to see more courses planned to meet the needs of special groups. The farmers go to college at the University of Minnesota, for example, to take a 2-week intensive course in some subject of interest to them at the time. They don't go to college for credits or degrees. They go because they need information.

That, in brief, is my idea of a college or university: It is an institution which thinks of service to adolescents and adults in terms of their needs rather than merely in terms of college degrees or credits.

In my educational scheme I wouldn't forget that controversy is an inescapable part of the democratic process. It is one of the vital elements of democracy at work. One of the biggest contributions that the secondary school and college can make is to turn out graduates who have been trained in the discussion of controversial issues. Yet I have known of school situations in which the discussion of controversial issues has been prohibited.

Adequate provision for the mutual exchange of ideas and beliefs is indispensable to the achievement of the "abundant life," to the further development of democracy. It forestalls dictatorship. Recognition that controversies are natural in a free society keeps alive processes involved in the exchange of ideas. The greatest need of this country to-day, if we are to insure the development of a civilization yet undreamed of, is the widespread acceptance of fair rules under which honest differences of opinion may be expressed—a national sportsmanship in intellectual conflict which is comparable to the sportsmanship which we have developed in many other fields.

May I extend my Utopia beyond the educa-

tional system? I would like to see adults able to make a living by working not more than twenty-four hours a week. It would be assumed that they would then spend six hours a week in systematic study of civic problems—local, state, national and international under policies democratically established by local authorities. The remainder of the week they would spend in hunting, fishing, music, painting, study to improve vocational ability.

Utopia? Perhaps it isn't far off.—*J. W. Studebaker, United States Commissioner of Education in a statement issued by the Associated Press.*

REPORTS

THE FIRST ANNUAL REPORT OF DR. EDMUND EZRA DAY OF CORNELL UNIVERSITY

SKETCHING the history of Cornell University through the year 1937–38 and pointing out her most pressing needs, President Edmund Ezra Day in his first annual report as president stated that his first year "was not intended to be one of innovations" and that he regarded it as a necessary period of time for "getting acquainted."

Dr. Day made a wide variety of contacts within the university, with faculties, committees, deans, department heads, activities and campus life in all its kaleidoscopic phases, rounding out his experiences by visiting fifty alumni clubs from Boston in the East to San Francisco in the West, from Minneapolis and St. Paul in the North to Washington and Louisville in the South.

From his observations and through consultations with trustees and with members of the faculty and of the student body, Dr. Day outlined six immediate needs of the university, saying that "funds for these and other purposes must be raised in due course and without too much delay." He listed as imperative the need for additional funds for scholarships, a new library building, a modernized plant for the Engineering College, a new indoor sports building for both men and women, increased endowment for salaries and research and coordination of the work in biology.

True to the creed learned during his training as an economist, Dr. Day made a sustained effort to avoid an operating deficit for the year as a whole, with the result that the approaching end of the year showed an operating surplus of $30,000. This was reappropriated, half of the total going for new equipment for the Engineering College, $5,000 for a supplementary book accession fund for the university library, $5,000 as a fund in support of faculty researches, $5,000 for repairs and alterations in Rockefeller Hall, the physics building. The accounts were closed June 30, 1938, with a surplus of $870.20. Gifts for the year, according to the president's report, totaled $1,333,194.40.

Changes in the physical plant were not numerous. However, Moore Hall, the new laboratory building for the Veterinary College, was completed and "placed on the books." Negotiations with the late Professor George F. Warren led to the purchase of the bulk of the Warren Farm at Forest Home, an area of about 114 acres contiguous to other tracts already held by the university. In addition to these items, four building projects to be completed in 1938–39 were started. These are the new store and service building at East Ithaca, a set of potato greenhouses, a set of insectary greenhouses and a laboratory at the Varna Farm for researches on experimental neuroses.

Summarizing his educational outlook, President Day concluded, "The new administration of the university is convinced that there are certain lines of new development which may wisely be induced at Cornell over the next few years. The university has its own individual characteristics, its own special elements of strength. Out of these, fresh contributions to the further improvement of higher education in America can be surely fashioned. In the years that lie ahead the new administration proposes to collaborate in every possible way with other branches of the university in maintaining for Cornell its recognized position among the country's outstanding institutions of higher learning and public service."

CORRESPONDENT

NEW COLLEGE OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY

DEAN WILLIAM F. RUSSELL, of Teachers College, issued on November 10 the following statement:

For many years Teachers College, through its department of Normal School Education, has been developing ideas for the better education of teachers. Seven years ago, owing to the lack of facilities for experimentation and demonstration in the field, New College for the Education of Teachers was established under the leadership of Professor Thomas Alexander. This experiment has had the widest influence. The aim has been to demonstrate the proper scope of teacher education and the practicability of new methods. This year there is a fine enrolment and commendable progress is being made in all its departments. Professionalized subject-matter, the seminar approach, field work experience, community organization, foreign study, interneship, educational guidance, new type records and reports—all these are securing wide recognition and incorporation in other institutions for the education of teachers. No experiment has been more valuable for Teachers College.

Nevertheless, we are confronted with problems which appear unsurmountable. The deficit of New College last year was $57,000. We are convinced that only a subsidy of $35,000 a year can provide the kind of program we want, not including any charges for heat, light, supplies and maintenance.

We have been unable to secure any substantial gifts for New College. Teachers College, because of a decrease in gifts and a decline in earnings from investments and increased expenses, can not continue large subsidies to New College. We can not look to the students. It would require double the present tuition charges.

In the light of these circumstances, we can not continue New College as a separate enterprise. We have, therefore, recommended the discontinuance of New College as an experimental unit of Teachers College as of June 30, 1939; and this recommendation has been approved by the President of the University and by the Board of Trustees.

Teachers College wishes to make the best adjustment possible for the students of New College who have registered here expecting four full years of work of a special kind. We have not decided upon a plan nor shall we make such a decision or announcement until we have the full facts. We are requesting each student to have an interview as soon as possible with a member of the Curriculum Guidance Committee of the New College staff. Each student may rest assured that if he so desires he will have the opportunity to complete his work for the B.S. or A.M. degree in Teachers College with as close an approximation to the original New College plan as we can find possible.

Replies were made to the statement of Dean Russell by the faculty of New College and by the student body and alumni. The statement made by the faculty reads:

1. We believe that the dissolution of New College will have a demoralizing effect on American education in general and on teacher education especially. At this particular moment, when teacher education is on the point of moving forward (as evidenced in the recent establishment of the Committee on Teacher Education of the American Council) New College could undoubtedly have an outstanding part in the movement. The passing of New College will therefore destroy the position of Teachers College as a leader in the education of new teachers and seriously damage its general standing throughout the country.
2. We disapprove as undemocratic and ill-advised the procedure by which this step has been taken without consultation with the students and faculty of the college or with the regularly appointed New College Advisory Committee and the Dean's Advisory Committee as to ways and means of avoiding this step. We acknowledge the fact that the faculty was taken into partial confidence last year at the time of the change in administration; but since that time, in spite of the fact that the situation has materially improved, we have not been consulted in any way.
3. We should like to enumerate some of the changes which led us to suppose that New College had a reasonable chance for continued existence:
   a. Dr. Tewksbury was appointed director—not chairman, as Dr. Alexander had been, or temporary director, or adviser. His title appears to be quite as permanent as that of the Director of the Advanced School of Education, Director of Educational Research, or any of the other directors.
   b. The New College Community, the greatest source of deficit, was taken out of our program.
   c. The new registration, instead of falling off (one of the reasons given for the proposed dissolution last year), has increased by one half.

d. Through various economies, the deficit has been radically cut.
e. Important structural changes and decorative improvements have been made in Emerson Hall at considerable cost to Teachers College.
f. A new, vigorous and hopeful spirit has been infused into the college.

4. We deplore the admission of sixty-seven new students to the college this fall without a clear statement being made to them that the continuance of the college beyond this year was, in the minds of the Teachers College administration, extremely doubtful.
5. We earnestly desire that the Dean of Teachers College, the President of Columbia and the Board of Trustees reopen the question of the dissolution of New College and cooperate with the college in formulating plans whereby its continuance in its present form may be assured without an undue burden on the budget of Teachers College.

EDUCATIONAL RESEARCH AND STATISTICS

RELATION OF INTELLIGENCE TO KNOWLEDGE OF WORLD AFFAIRS

To what extent do mentally superior secondary school students differ from their mentally inferior classmates with respect to knowing what is happening in the nation and world?

During the spring of 1937, the writer investigated this problem, using as his subjects the pupils in the junior and senior high schools of Everett, Washington. The entire student bodies of these schools were first given intelligence tests. For the senior high school pupils, the Otis S–A Test of Mental Ability, Higher Examination, Form A, was used. In the junior high schools, the Otis S–A Test of Mental Ability, Intermediate Examination, Form A, and the Terman Group Test of Mental Ability, Form A, were employed. Altogether 2,863 students were tested. Roughly half of this number were at the senior high school level, and half at the junior high school level. Those students whose I.Q.'s placed them in the highest 15 per cent. of their respective groups were classified as "Superior," while those students who fell in the lowest 15 per cent. of intelligence were classified as "Inferior."

Following the administration of the intelligence tests, these students were given the National Current Events Test of 1937.[1] This is a test covering national and international news for the period of July, 1936, to January, 1937. The test contains one hundred questions and requires forty minutes for its administration. There are six parts to the test as follows: (1) History in the News; (2) Important Names in the News; (3) Words in the News; (4) The U. S. Constitution in the News; (5) General Current Information; (6) By Their Words Ye Shall Know Them.

Under part 1, such questions as the following were asked: President Roosevelt, in 1936, received —— (1) the first unanimous vote, —— (2) the largest number of electoral votes, —— (3) benefit of the greatest split vote in the history of our country. A variety of such questions as the one just given covered national affairs. Foreign affairs under part 1 were covered by questions like the following: One of the bloodiest civil wars has been raging in —— (1) France, —— (2) Russia, —— (3) Spain. The students were instructed to place an X before the word or words which most accurately completed the thought of each sentence. The subject-matter of the other five parts of the examination booklet was tested by means of matching tests, completion tests and multiple choice tests.

Using the split-halves technique and the Spearman-Brown "prophecy" formula,[2] the writer found the reliability coefficient of this test to be $.92 \pm .036$.

In Table 1 the distribution of the scores of the mentally superior and inferior groups is presented. It is evident that an extremely marked difference exists between the bright and dull pupils as to their knowledge of national and international news. The differences are equally pronounced at both the junior and senior high-school levels. The superior senior high-school pupils get, on the average, 78.84 out of the 100 questions right, while the mentally inferior se-

[1] Published by the American Education Press, 1937.

[2] William Brown, "The Essentials of Mental Measurement," p. 102, 1911.

nior high-school pupils get, on the average, only 52.27 correct. This difference, divided by the standard error of the difference, equals 20.27. This indicates that the obtained difference is a most reliable one. The mentally superior junior high-school pupils make an average score of 57.53, while their mentally inferior classmates make only an average score of 32.52. This difference also possesses marked statistical reliability.

A very striking bit of evidence of the relationship of intelligence to knowledge of world affairs is the fact that the gifted *junior high-school pupils* make a higher average score on the test than do the ungifted *senior high-school pupils*.

TABLE 1

DISTRIBUTION OF SCORES OF MENTALLY SUPERIOR AND INFERIOR PUPILS ON THE NATIONAL CURRENT EVENTS TEST

Number of Correct Answers	Senior High Group		Junior High Group	
	Superior	Inferior	Superior	Inferior
	N = 206	N = 202	N = 191	N = 190
96–100	5	..	..	..
91–95	15	2	1	..
86–90	38	2	3	..
81–85	43	8	11	..
76–80	30	6	10	..
71–75	26	5	17	..
66–70	24	16	19	1
61–65	11	18	18	4
56–60	9	24	26	6
51–55	3	13	12	3
46–50	2	25	25	10
41–45	..	32	18	12
36–40	..	23	17	23
31–35	..	16	8	33
26–30	..	11	3	46
21–25	..	..	2	26
16–20	..	..	1	16
11–15	..	1	..	9
6–10	..	..	..	1
Average score	78.84	52.29	57.53	32.52
Difference	20.27		18.00	
$\sigma_{Difference}$				

Their scores are, respectively, 57.53 and 52.29. Although the inferior senior high-school students are on the average three years farther along in school, and three or more years older than the superior junior high-school pupils, they, nevertheless, know less of events that are taking place in the world.

It might be objected that the reason mentally superior children know more about world affairs than their less intelligent classmates is because they come on the average from better homes where they may more frequently hear their parents discuss such affairs. In order to test whether or not this might be the case, the writer employed a technique[3] for holding the occupations of the fathers of gifted and ungifted children constant while studying the differences in their scores on the current events test. The groups studied by this method were the mentally superior and inferior sophomore boys. The number of cases in each group was, respectively, 38 and 45. Using the Johnson and Neyman technique and continuing the analysis by means of Snedecor's[4] table, an F or 77.1 was obtained. This indicates that a most highly significant difference in the knowledge of world affairs still exists between bright and dull pupils, even when the occupations of the fathers are held constant.

A further idea of the close relationship that exists between intelligence and knowledge of world affairs can be gathered from the fact that the writer obtained for 370 high-school sophomores a Pearson r of .58 ± .02 between scores of the Otis S–A Test of Mental Ability and the world affairs test used in this study.

The findings of this investigation show very clearly that gifted secondary-school pupils know a great deal more of what is going on in the world than do the less gifted. Why should this be the case? According to Terman,[5] bright children read much more widely than do average children. The greater learning and retaining power of gifted children also probably plays a part in their acquiring a superior knowledge of world events.

In a democracy such as ours, it is very necessary that all individuals possess adequate knowledge of what is happening in the nation and world. This is particularly true at the present time when such rapid changes are taking place. Every effort should, therefore, be made by the schools to develop in pupils of limited mental ability greater interest in national and world affairs. It is doubtful if such procedure would ever entirely close the gap found in this study between the gifted and ungifted groups, but the difference might be somewhat diminished.

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[3] Palmer O. Johnson and Jerzy Neyman, "Statistical Research Memoirs," Vol. 1, pp. 57–93, June, 1936.

[4] G. W. Snedecor, "Calculation and Interpretation of Analysis of Variance and Convariance," pp. 88–91, 1934.

[5] L. M. Terman, "Genetic Studies of Genius," Vol. 1, pp. 441–447, 1925.

KNOWLEDGE OF THE CONSTITUTION OF THE UNITED STATES

CHILDREN in the St. Louis public schools know more about the provisions of the Constitution of the United States in 1938 than they did in 1927, according to a recent survey. In May, 1938, the Division of Tests and Measurements gave to seven thousand pupils in all grades from the eighth through high school a test of 45 questions devised especially for a similar survey in 1927, and given at that time to all pupils enrolled in these same grades. Clerks employed by the National Youth Administration during the summer of 1938 assisted in tabulating the results for comparison.

The increase in knowledge possessed by children in St. Louis concerning the provisions of the Constitution of the United States occurred in all grades from the eighth through high school. The greatest increase was in the last half of the eighth grade as shown in the following statistical comparison of median scores. (See table 1.)

TABLE 1

COMPARISON OF MEDIAN SCORES IN BOTH THE FIRST AND SECOND SEMESTERS OF EACH GRADE FROM EIGHT TO TWELVE INCLUSIVE IN 1927 AND IN 1938

Grade	VIII–1	VIII–2	IX–1	IX–2	X–1	X–2	XI–1	XI–2	XII–1	XII–2
1927	18.9	22.9	21.6	22.9	23.4	23.4	26.1	27.5	31.5	32.4
1938	23.1	30.3	26.2	26.6	23.9	23.4	28.2	29.0	32.2	33.3

Nearly all the 45 questions in the test showed a gain in the per cent. of pupils answering correctly. The greatest improvement in response to any of the various questions was shown on these three: (1) Does any amendment guarantee the freedom of speech or of the press? (2) May states deny citizens the right to vote on account of color?; (3) Does any amendment require states to give to men and women an equal right to vote?

Only four questions showed a decrease in the percentage of correct answers. One of these refers to the manufacture, sale and transportation of intoxicating liquors. In the test given last May only 80 per cent. of the children tested were aware of the fact that the prohibition amendment had been repealed; but in 1927 the test showed that 91 per cent. of the children enrolled in these same grades knew that the prohibition amendment was in effect. The three other questions showing a small decrease in the proportion of children answering them correctly relate to certain powers of Congress and the electorate, as follows: (1) Who has the power to regulate commerce among the several states?; (2) Whose duty is it to fix a standard of weights and measures?; (3) Who has the right to choose senators from each state?

The total improvement shown by the entire test is probably due to the fact that the Constitution has received more public attention in the past year or two than it was receiving in 1927. Newspapers, radio broadcasts and picture films have advertised widely during the past year the sesquicentennial celebration of its adoption. Furthermore, the interpretation of the constitution in relation to many governmental policies has had the effect of intensifying public interest in its provisions and increasing the general knowledge of its contents. In addition to the influence of these various news agencies, the teachers usually endeavor consciously to keep children alert and well informed concerning current events. Through such activities the children have acquired more knowledge concerning the actual provisions of the Constitution of the United States.

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